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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,460	02/09/2004	Johann Holzleitner	RP-00601-US3	3606

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EXAMINER

MCMAHON, MARGUERITE J

ART UNIT	PAPER NUMBER
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3747

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/773,460

Applicant(s)

HOLZLEITNER ET AL.

Examiner

Marguerite J. McMahon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/9/04.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Ikegaya et al (5,619,962). Ikegaya et al show a cylinder block assembly for an internal combustion engine comprising: a cylinder block having a cylinder bore formed therein extending from a first surface, wherein the cylinder bore has a cylinder bore surface 31, wherein the cylinder block is formed from a first material, and wherein the first surface defines a cylinder head sealing surface; a cylinder head mounted to the cylinder head sealing surface; and a coating 33 covering at least part of the cylinder bore surface and at least part of the cylinder head sealing surface, the coating comprising a second material different than the first material, wherein the coating has a truncated outer edge, wherein a portion of the coating that covers at least part of the cylinder head sealing surface extends radially outwardly from the cylinder bore in a plate that is perpendicular to an axis of the cylinder bore, and the cylinder block further comprises a chamfer formed in a transition area between the cylinder bore and the cylinder head sealing surface, and the coating covers the chamfer (see Figure 2). Note that “truncated” is interpreted as meaning abbreviated or shortened, and is applied here in the sense that the coating does not extend very far radially outwardly, but rather extends radially

outwardly only a short distance. This interpretation of "truncated" applies to all rejections in this Office Action.

Claims 1,3, 5, and 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 1056946 A. JP 1056946 A shows a cylinder block assembly for an internal combustion engine comprising: a cylinder block having a cylinder bore formed therein extending from a first surface, wherein the cylinder bore has a cylinder bore surface 4, wherein the cylinder block is formed from a first material, and wherein the first surface defines a cylinder head sealing surface; a cylinder head mounted to the cylinder head sealing surface; and a coating 9 covering at least part of the cylinder bore surface and at least part of the cylinder head sealing surface, the coating comprising a second material different than the first material, wherein the coating has a truncated outer edge, wherein a portion of the coating that covers at least part of the cylinder head sealing surface extends radially outwardly from the cylinder bore in a plate that is perpendicular to an axis of the cylinder bore, wherein the cylinder block further comprises a chamfer formed in a transition area between the cylinder bore and the cylinder head sealing surface, and the coating covers the chamfer, wherein a depression is disposed in the first surface of the cylinder block, the depression surrounding the cylinder bore and being covered by the coating, wherein the portion of the coating covering the depression has a surface that is level with an uncoated portion of the cylinder head sealing surface, and wherein the depression has a diameter that is greater than an inside diameter of the cylinder head at the intersection between the cylinder head and the sealing surface (see Figure 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 4, 6-8, 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikegaya et al (5,619,962). Ikegaya et al show everything except the portion of the coating that covers part of the cylinder head sealing surface having a particular uniform minimum thickness, the particular range of the extent to which the coating extends radially outwardly beyond the cylinder bore, the chamfer being frusta-conical and the particular height of the chamfer, the coating on the chamfer being unfinished, a recess for a cylinder head gasket being formed in the cylinder head sealing surface which surrounds the cylinder bore, and the coating extending outwardly over the cylinder head to an inner edge of the recess.

It would have been an obvious matter of design choice to utilize the particular dimension cited by Applicant as a minimum uniform thickness of the portion of the coating that covers part of the cylinder head sealing surface, and to utilize the particular dimensional range cited by Applicant for the extent to which the coating extends radially outwardly beyond the cylinder bore and the height of the chamfer, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 104 USPQ 233.

In addition, it would have been an obvious matter of design choice to utilize a frusta-conical chamfer since Applicant states, at the bottom of page 8 of the specification that the chamfer “may have a convex or curved shape without departing from the scope of the present invention.” Since Ikegaya et al show a convex or curved shape, it is presumed not to depart from the scope of the present invention.

Similarly, it would have been an obvious matter of design choice to leave the coating on the chamber unfinished, since Applicant states at lines 1-2 of page 11 of the specification that “the portion of the coating 22 that covers the chamfer 20 **may be optionally** left unmachined...” [emphasis added].

Finally, it would have been an obvious to one of ordinary skill to employ a recess for a cylinder head gasket in the cylinder head sealing surface which surrounds the cylinder bore, since this is conventional and to have the coating extending outwardly over the cylinder head to an inner edge of the recess, since this is only one of the options shown, and the device would function in the same way whether this feature was employed as shown in Figure 3, or not employed as shown in Figure 2, as the two different designs are art recognized alternatives, known for the same purpose.

Claims 12-14, 18, 19, and 21, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 01056946 A. JP 01056946 A shows everything except the depression having a particular uniform minimum thickness, the depression having a step that abuts the truncated outer edge of the coating, and forming a recess for a cylinder head gasket in the cylinder head sealing surface before coating the cylinder block, and covering the recess when the coating is applied, wherein the coating is

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applied to the cylinder block over an entire surface that extends between the cylinder bore and an inner edge of the recess.

It would have been an obvious matter of design choice to utilize the particular dimension cited by Applicant as a minimum uniform thickness of the portion of the coating that covers part of the cylinder head sealing surface, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 104 USPQ 233.

In addition, it would have been an obvious matter of design choice to form the depression having a step that abuts the truncated outer edge of the coating, since Applicant states at line of page 10 of the specification that "the surface 5 may alternatively be leveled without a step or depression 23."

Finally, it would have been an obvious to one of ordinary skill to employ a recess for a cylinder head gasket in the cylinder head sealing surface which surrounds the cylinder bore, since this is conventional and to cover the recess when the coating is applied such that the coating extends outwardly over the cylinder head to an inner edge of the recess, since this is only one of the options shown, and the device would function in the same way whether this feature was employed as shown in Figure 3, or not employed as shown in Figure 2, as the two different designs are art recognized alternatives, known for the same purpose.

Claims 11, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 01056946 A in view of Ikegaya et al (5,619,962). JP 01056946 shows

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everything except the portion of the coating that covers the depression being finished and the portion of the portion of the first surface that defined the cylinder head sealing surface being finished by grinding. Ikegaya et al teach that it is old in the art to finish the coating by honing, which is the same as grinding. It would have been obvious to one having ordinary skill in the art to modify JP 01056946 A by finishing the coated surface by grinding or honing, in order to provide a smooth, firm surface.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 01056946 A in view of Rao et al (5,363,821). JP 01056946 A shows everything except the coating being applied by plasma spraying and a lance of the plasma spraying apparatus being angled relative to a longitudinal direction of the cylinder bore during coating of the chamfer. Rao et al teach that it is old in the art to employ plasma spraying and to employ a lance of the plasma spraying apparatus being angled relative to a longitudinal direction of the cylinder bore during coating. It would have been obvious to one of ordinary skill in the art to modify JP 01056946 A by employing plasma spraying as the means to apply the coating and to position the plasma spraying apparatus such that it is angled relative to a longitudinal direction of the cylinder bore during coating of the chamfer, in order to provide a means of applying the coating.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marguerite J. McMahon whose telephone number is 703-308-1956. The examiner can normally be reached on flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yuen Henry can be reached on 703-308-1946. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


MARGUERITE MCMAHON
PRIMARY EXAMINER